

We Claim:

1. An analog sound reproducing system for a model train traveling on a plurality of rails that uses a amplified digital control signal for propulsion and control, the system comprising:

an analog sound memory storing a plurality of sound effects at predetermined addresses;

a controller connected to the sound memory for recalling the analog sound effects of either one or a plurality of sound effects in a predetermined sequence or a random sequence;

a sound memory containing multiple analog samples that emulate a model locomotive at various speeds and work loads;

an integrated analog sound, motor and special effects controller controlled by a bi-polar digital signal, the motor and special effects controller reproducing the stored analog sounds contained in the model train; and

a digital packet triggering a sound effect for automatic playback of a sound effect.

2. The system according to Claim 1 wherein the model train has two rails for providing a digital signal and powering the sound effects of the model train, motor, and special effects system.

3. The system according to Claim 1 further comprising:  
an electrical power supply in the rail car or track side structure having a means for collecting the digital bi-polar signal from either of the two insulated tracks by a pick up on two insulated wheels or off of a digital buss line or overhead wire;

a full wave bridge rectifier with <sup>an input</sup> ~~one half~~ connected

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10. The system of Claim 1 further comprising:  
means for synchronizing the sound effects to the driver's wheels through decoding a properly addressed digital speed packet that controls the speed of the model locomotive and determines which sound effect to synchronize with the speed of the locomotive using the same digital speed packet.

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